CEF Cumulative Effects Framework

BRITISH COLUMBIA

Cumulative Effects Framework

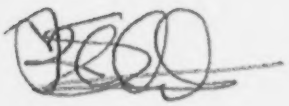
Interim Policy

for the Natural Resource Sector

October 2016

Policy Approval

The Cumulative Effects Framework Interim Policy is approved for implementation by Natural Resource Sector agencies effective November 18, 2016



Tim Sheldan

Chair, Natural Resource Board

Preamble

The Province of British Columbia (B.C.) is committed to considering cumulative effects as an integral component of natural resource decision-making. Improving cumulative effects assessment and management will be a vital part of sustainable and integrated resource management. The Cumulative Effects Framework (CEF) includes policy, procedures and decision-support tools that complement current land management achieved through B.C.'s legislative framework, land use plans and various best practices and processes. The framework provides important foundational information that can be used in a number of ways, including the potential to inform consultation with First Nations where a proposed decision or activity by the Province may affect claimed or proven Aboriginal or treaty rights. Transparently reporting on cumulative effects assessment information and management considerations will enable coordinated, consistent management of cumulative effects across the natural resource sector.

Cumulative Effects:
Changes to environmental, social and economic values caused by the combined effect of past, present and potential future human activities and natural processes.

This Cumulative Effects Framework Interim Policy is divided into three parts — *Part 1: General Provisions; Part 2: Cumulative Effects Assessment;* and *Part 3: Cumulative Effects Management.*

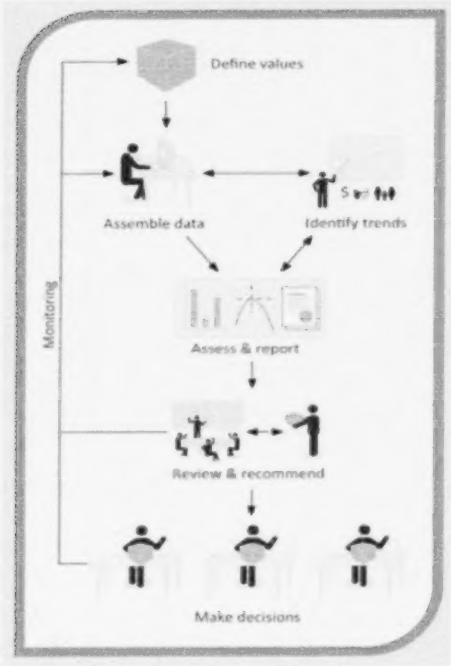
Part 1: General Provisions provides common definitions, the purpose and authority of this policy, key roles and responsibilities, direction for engagement, and direction for monitoring and evaluating policy implementation and effectiveness.

Part 2: Cumulative Effects Assessment provides direction for provincial government staff and decision-makers responsible for completing and/or approving assessments under the CEF. It defines provincial standards and expectations for CEF assessment, including selecting values for assessment; identifying objectives for values; defining components, indicators and benchmarks for assessment; identifying and defining management review triggers; collating data and trend information; completing assessments for current and future condition; and preparing reporting products.

Part 3: Cumulative Effects Management provides direction and guidance for provincial government staff and decision-makers for managing cumulative effects on resource values in natural resource decision-making in B.C. It defines direction for a new regional business process necessary for identifying consistent and coordinated management to mitigate cumulative effects. It also provides guidance to decision-makers on considering information from regional-scale CEF assessments and for considering cumulative effects in the absence of a CEF assessment.

Figure 1 below illustrates the idealized workflow for *CE Assessment* and *CE Management,* and the specific elements that are addressed in Part 2 and Part 3 of the policy.

Figure 1: Elements of the Cumulative Effects Framework addressed in this document.



Staff Responsible for Developing and Approving CEAs

Regional CE Management Committees

Individual Decision-Makers

Policy for:

Part 2: Cumulative Effects Assessment

- selecting values
- identifying objectives
- defining components, indicators and benchmarks
- identifying and defining management review triggers
- collating data and trend information
- assessing current and future condition
- reporting

Part 3: Cumulative Effects Management

- Regional CE management process
- Considering CE in decision-making, and reporting considerations

Further guidance and procedures for implementing this policy will be provided in accompanying *Procedures for Cumulative Effects Assessment* and *Procedures for Cumulative Effects Management* that are under development. While the intent of this policy is to convey strategic direction for how cumulative effects are to be considered and managed in decision-making across the natural resource sector, the specific steps and approach to implementation will be defined in relation to the current regulatory framework and business process for decision-making in each sector through operational policy and/or guidance. Operational policy and/or guidance will be developed pursuant to this policy to provide implementation direction specific to each resource sector (e.g., forestry, mining, oil and gas, land allocation).

The Cumulative Effects Framework is built on a principle of continuous improvement. Comments on this policy will be accepted for consideration at any time and may be submitted by email to: Cumulativeeffects@gov.bc.ca.

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Part 1: General Provisions

1. Definitions and Acronyms

Assessment Area
Extent of the area undergoing a Cumulative Effects Framework assessment.

Assessment Unit
A defined geographic area within which an individual value or component is analyzed.

Benchmark
Reference points that support interpretation of the condition of an indicator or component. Benchmarks are based on our scientific understanding of a system and may or may not be defined in policy or legislation. For the purpose of the CEF, benchmarks are identified to support assessment and reporting in relation to broad objectives.

Best Management Practices (BMPs)
Approaches based on known science that, if followed, should allow the client to meet the required standard(s) or achieve the desired objective(s).

Component
Features and attributes of a value that should be measured and managed to meet objectives associated with values.

Conceptual Model
A visual representation of how components and indicators influence or interact to affect the condition of a value.

Cumulative Effects (CE)
Changes to environmental, social and economic values caused by the combined effect of past, present and potential future human activities and natural processes.

Cumulative Effects Assessment and Management Report (CEAM Report)
A report summarizing the results of CEF assessment (with associated maps) and management responses intended to mitigate cumulative effects.

Cumulative Effects Framework (CEF)
A framework containing policy, procedures and decision-support tools to improve the consideration of cumulative effects in natural resource decision-making in B.C. It enables a strategic approach to assessing cumulative effects to CEF values and identifying management responses that support ongoing sustainable management of that value, or actions that are necessary to mitigate undesired effects to these values.

Cumulative Effects Framework Assessment (CEF Assessment)
A strategic assessment (e.g., office-based Geographic Information Systems model over large areas) of the current and potential future condition of CEF values.

Cumulative Effects Framework Values (CEF Values)
CEF values are approved provincial and regionally specific values that are important to the people of British Columbia, are recognized as being sensitive to cumulative effects and are periodically assessed and reported.

Cumulative Effects Framework Standard Assessment Protocol
Documents defining the fundamental assumptions and procedures for assessing the condition of CEF values.

Cumulative Effects Management (CEM)
The identification and implementation of consistent and coordinated management responses to understand and manage cumulative effects.

Cumulative Effects Management Committee (CEMC)
A regional, interagency, senior management committee with responsibility for cumulative effects management. This responsibility may be delivered by an existing interagency committee.

Current Condition Report
A report on the current state or condition of individual CEF values in relation to selected state or pressure indicators.

Environmental Assessment (EA)
Refers to the assessment of environmental, social, health, economic and heritage effects under the B.C. *Environmental Assessment Act*, and the resulting decision by ministers in relation to an application for an environmental assessment certificate.

Environmental Mitigation Policy (EMP)
The Environmental Mitigation Policy and Procedures (2014) provides the expectations and guidance for mitigating impacts on environmental values and associated components. They provide a consistent approach for identification of environmental values and associated components, assessment of project-scale impacts on environmental values and associated components, application of the mitigation hierarchy to develop mitigation measures, and preparation of mitigation plans.

Indicators
The metrics used to measure and report on the condition and trend of a component, including:

> ***State Indicators*** that directly measure and report on the condition of a component, and
>
> ***Pressure Indicators*** that measure and report on processes that act upon or influence the condition of a component.

Management Responses
Considerations, actions, decisions or measures proposed or approved based on consistent principles and applied through coordinated management across the natural resource sector. Three levels of management responses are identified within this Policy:

> ***Operational Responses*** – consideration of site-level guidance or implementation of measures to mitigate the effects of projects or activities, typically undertaken by proponents.
>
> ***Tactical Responses*** – processes to improve consistency and/or coordination in applying current policy direction, or to seek further information, that may be undertaken by government, stakeholders, proponents and/or First Nations.
>
> ***Strategic Responses*** – measures to define or establish strategic direction for the management of land and/or resource values, typically led or coordinated by government.

Management Review Classes

> ***Standard Management Review Class***
> The condition of an indicator for a value is assessed as being below (i.e., better than) both the regulatory/policy trigger and enhanced management review trigger, indicating that objectives are being achieved.
>
> ***Enhanced Management Review Class***
> The condition of an indicator for a value is assessed as being below the regulatory/policy trigger but above the enhanced management review trigger. Objectives are being achieved, but conditions are approaching a level where further development could put their achievement at risk. The management goal is to enhance consistent and coordinated responses to ensure the objective is not unintentionally exceeded.
>
> ***Intensive Management Review Class***
> The condition of an indicator for a value is assessed as being above the regulatory/policy trigger, and therefore the objective is not currently being achieved. The management goal is to ensure consistent and coordinated responses to meet the objective.

Management Review Triggers
Defined levels of condition that trigger a change in management review. Within the CEF there are two defined triggers:

> ***Regulatory/Policy Trigger*** – The condition of a CEF value (or component or indicator of a value) that reflects a specific objective and triggers a change in management review from enhanced to intensive management review.
>
> ***Enhanced Management Review Trigger*** – The condition of a CEF value (or component or indicator of a value) that triggers a change from standard management review to enhanced management review; it is established based on defined criteria.

Mitigation Hierarchy
The order of priority for the selection of mitigation measures.

Mitigation Measure
A tangible action taken to avoid, minimize, restore on-site or offset impacts to resource values.

Objective
The desired condition of a value (or component or indicator associated with a value) as defined in legislation, policy or agreements with First Nations. Objectives are categorized as one of two types:

Broad Objectives describe the overall desired conditions for a value or component, usually in a qualitative manner.

Specific Objectives describe desired conditions for a component or indicator associated with a value, usually in a quantitative manner.

Potential Future Activities

a. **Certain:** The physical activity is certain or very likely to proceed (e.g., authorizations/ operational plans have been approved).

b. **Reasonably Foreseeable:** The physical activity is expected to proceed (e.g., the proponent has publicly disclosed its intention to seek the necessary EA or is in the process of seeking other types of authorizations).

c. **Hypothetical:** There is considerable uncertainty whether the physical activity will ever proceed. The conjecture is based on currently available information.

Potential Future Condition
The assessed or estimated condition of a value at a point in the future, with consideration given to human activities defined as one or more of the following: certain, reasonably foreseeable or hypothetical (long-term scenarios), and natural processes (where appropriate).

Reporting Unit
Sub-regional scale geographic areas defined for periodic CEF assessment and reporting. A reporting unit may or may not be equivalent to an assessment unit.

Values
The things that the people and government of British Columbia care about and see as important for assuring the integrity and well-being of the province's people and communities, economies and ecological systems, defined in policy, legislation or agreements with First Nations.

2. *Purpose and Authority*

2.1 The purpose of this policy is to:

a. convey standards and direction for completing and reporting CEF Assessments, and

b. provide guidance for managing cumulative effects, including:

i. a regional interagency review of cumulative effects assessments and identification of management responses, and

ii. considering cumulative effects in individual natural resource decisions, in support of timely, informed, durable and transparent decision-making.

2.2 This policy is primarily intended for:

a. government staff and decision-makers responsible for completing and approving CEF assessments; and

b. natural resource sector decision-makers and staff involved in the process of authorizing the use of Crown lands and resources or directing the management of resource values, including:

i. **Operational decisions and associated activities**, such as:

- *natural resource authorizations*, including authorizations and renewals for land or resource permits, licences, tenures and operational plans, and the associated stages of application review, evaluation and preparation of decision-support material, and decision-making
- *environmental assessment* (including assessments of cumulative effects) of proposed major projects that are reviewable by the Environmental Assessment Office[1], as well as other major projects
- *First Nations consultation and assessment of potential impacts* of proposed activities on the exercise of established or asserted Aboriginal or treaty rights.

ii. **Tactical decisions**, such as setting government priorities for inventory, monitoring and research, or planning and implementing government-led resource stewardship and management initiatives, and

iii. **Strategic decisions**, such as setting strategic direction for the management of lands and resources through establishing or revising legal or policy objectives, and/or completing land use plans.

[1] Note: the Environmental Assessment Office provides direction for the assessment of reviewable projects by project proponents. This policy document provides guidance for how regional-scale CEF assessments can support and be considered in the assessment and approval of major projects.

2.3 This policy does not convey legal authority. It supports and does not replace existing legislation, any other legal requirements, or application requirements established by policy.

2.4 Application of this policy supports but does not fetter the existing discretion of a statutory decision-maker to determine the acceptability of potential impacts associated with a proposed activity.

3. Key Roles and Responsibilities

3.1 Natural Resource Sector Executive Direction

3.1.1 The Natural Resource Board (NR Board) shall be responsible for approving CEF Policy.

3.1.2 The Natural Resource Sector Assistant Deputy Ministers (NRS ADMs) Committee shall be responsible for:

a. approving CEF procedures

b. approving CEF values

c. approving the interpretation and application of existing objectives to inform assessment approach

d. approving CEF Standard Assessment Protocols, which may include proposed CE management review triggers

e. approving regional CEAM reports, including proposed management responses

f. providing executive direction and conflict resolution as required.

3.1.3 The Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) Area Assistant Deputy Ministers shall be responsible for specifying the regional accountable official for the implementation of cumulative effects assessment and management in each region.

3.2 Natural Resource Sector Strategic Direction

3.2.1 The CEF Strategic Leadership Team, composed of director and executive director representatives from each natural resource agency, shall be responsible for:

a. providing interagency advice and direction for the development of CEF policy and procedures and plans for implementation

b. supporting natural resource sector executive decision-making processes, as required for CEF implementation

c. reviewing implementation and making recommendations for continuous improvement of the policy.

3.3 CEF Policy, Procedures and Provincial Coordination

3.3.1 In collaboration with other natural resource sector agencies, the Resource Stewardship Division of MFLNRO is responsible for:

a. leading or coordinating the development and maintenance of provincial CEF policy, procedures, guidance documents and standard assessment protocols

b. coordinating provincial CEF implementation and progress reporting

c. monitoring and evaluating CEF policy implementation and effectiveness.

3.4 NRS Cumulative Effects Technical Team

3.4.1 An NRS CE Technical Team of provincial and regional staff with expertise in policy, decision support, provincial and local subject matter, and data analysis shall be responsible for:

a. completing periodic updates to Current Condition Reports

b. completing periodic assessments of current and potential future condition

c. completing steps for validating assessed conditions and interpreting results

d. identifying tools that enable management responses and potential barriers to their implementation

e. preparing draft CEAM reports and recommending potential management responses for review by the CE management committee.

3.5 Regional Cumulative Effects Management Committees (CEMC)

3.5.1 Each region[2] shall have a cross-sector management committee that is responsible for:

a. reviewing draft CEAM reports, considering the need for consistent and coordinated management responses

b. review and confirm recommendations from the NRS CE Technical Team on potential management responses for values based on condition of indicators and/or assignment of enhanced and intensive management review classes

c. confirming recommendations for potential responses comply with existing authorities

d. indicating level of support for the approval of CEAM reports

e. ensuring the communication of approved CEAM reports to their members' respective agencies.

[2] Refers to the eight MFLNRO administrative regions.

3.6 Regional Accountable Official

3.6.1 The regional accountable official shall be responsible for:

a. confirming and implementing a structure for regional interagency engagement in cumulative effects management in their region (e.g., CE Management Committee or other interagency committee)

b. confirming resourcing and priorities for cumulative effects assessment and management in their region, in consultation with the CEMC

c. developing and implementing a regional strategy for engagement with First Nations and stakeholders in cumulative effects assessment and management

d. endorsing regional CEAM reports and proposed management responses and preparing a recommendation for approval by the NRS ADMs

e. communicating approved CEAM reports to staff, First Nations and stakeholders.

4. Engagement and Collaboration

4.1 First Nations

4.1 .1 Opportunities for collaboration and partnership with First Nations will be explored, recognizing the shared stewardship of values and shared responsibility for management of cumulative effects.

4.1.2 Unless otherwise defined through specific agreements with First Nations, opportunities for engagement shall be provided at the following stages in cumulative effects assessment and management:

a. when defining Standard Assessment Protocols for each CEF value, including any regional modifications, to invite review and input

b. when initiating a regional CEAM report, to invite input on information and knowledge (local, traditional and expert) that may be considered in the assessment of the CEF values selected for assessment

c. when reviewing draft CEAM reports, to invite review and input on draft assessment results and potential management responses.

4.2 Stakeholders

4.2.1 Opportunities for collaboration with stakeholders will be explored, recognizing the shared stewardship of values and shared responsibility for management of cumulative effects.

4.2.2 Opportunities for engagement with affected stakeholders shall be provided at the following stages in cumulative effects assessment and management:

a. when defining Standard Assessment Protocols for each CEF value, including any regional modifications, to invite review and input

b. when initiating a regional CEAM report, to invite input on information and knowledge (local, traditional and expert) that may be considered in the assessment of the CEF values selected for assessment

c. when reviewing draft CEAM reports, to invite review and input on draft assessment results and potential management responses.

5. Monitoring and Evaluation

5.1 CEF assessments shall be informed by and provide information for broader integrated resource monitoring initiatives.

5.2 CEF policy implementation shall be periodically reviewed to support continuous improvement.

5.3 Assessment results, management responses and implementation shall be periodically reviewed to evaluate effectiveness at achieving overall policy objectives and support continuous improvement.

Part 2: Cumulative Effects Assessment

6. Cumulative Effects Assessment Overview

6.1 The systematic steps involved in conducting a CEF assessment are summarized in Figure 2.

Figure 2: Generalized steps for Cumulative Effects Framework assessment

Select Values	• select and approve CEF values for assessment • approve interpretation and application of existing objectives for the value
Define Standard Assessment Protocol	• define terms of reference and seek approval • confirm best available information and data for assessment • define the conceptual model and assessment methods for the value, including components, indicators, benchmarks, assessment units, assumptions and uncertainty of indicators and data • define management review triggers, where appropriate, and seek approval • seek approval for standard assessment protocol
Assess Condition & Interpret	• assess current condition • assess trends and potential future condition • assess current management direction and practices (e.g., conservation measures) • validate results and investigate causes of effect • interpret results and associated uncertainties • identify possible management responses, tools that enable these responses and potential barriers
Report	• annually report current conditions for CEF values, province-wide *(Current Condition Report)* • periodically report current and potential future conditions and management responses for each CEF reporting unit *(CEAM report)*

7. Values Selection and Approval

7.1 Provincial CEF values shall be identified that are relevant for consideration in all or most regions and shall be periodically assessed for cumulative effects at a regional scale (i.e., landscape or strategic scale).

7.2 Regional CEF values may be identified that are relevant for consideration in one or more regions (e.g., wildlife species of particular concern that are identified as priority species or in First Nations agreements) and shall be periodically assessed for cumulative effects at a regional scale (i.e., landscape or strategic scale).

7.3 The following are primary criteria for the selection of provincial and regional CEF values:

a. the value has been identified as a government priority for management as indicated by either:

i. the presence of existing management objectives in legislation, regulation, policy, strategic land-use plans or other forms of management direction approved by executive levels of government, or

ii. information indicating that the value is important for supporting First Nations interests and the exercise of Aboriginal or treaty rights

b. the value can be spatially identified and mapped

c. the value is subject to cumulative effects (i.e., it can be affected by more than one activity).

7.4 Secondary criteria may be identified for the purpose of prioritizing the selection of CEF values that meet the primary criteria.

7.5 CEF values shall be approved by the NRS ADMs Committee.

8. Defining Standard Assessment Protocols

8.1 Direction for developing standard assessment protocols for each CEF value shall be defined in an approved Terms of Reference that shall include or reference the following:

a. the broad objectives approved for use in the assessment by the NRS ADMs

b. the specific objectives approved for use in the assessment by the NRS ADMs, as the policy/regulatory trigger

c. regulatory considerations related to decision-making that may affect the design and application of CEF assessments.

8.2 A standard assessment protocol shall be developed for each CEF value and shall include or reference the following:

a. a summary of existing objectives (broad and specific) in legislation, regulation, policy, strategic land use plans, or other forms of management direction that describe desired condition of CEF values, and associated relevant management direction

b. a summary of best available knowledge and data to support assessment, including supporting rationale for selected benchmarks

c. a conceptual model for the value, including components, state and pressure indicators

d. a procedure for assessing the condition of state and pressure indicators of the value, including data sources and any assumptions or uncertainties regarding use and interpretation of the data, assessment units, and links to GIS scripts

e. a procedure for assessing current management direction and practices that contribute to the mitigation of landscape-level impacts to the value (e.g., conservation designations)

f. identification of enhanced management review trigger and rationale for selection, where applicable

g. assignment of roles and responsibilities for a value custodian(s) for each value, to support implementation, review and updates to protocols.

8.3 CEF Standard Assessment Protocols may include regionally specific modifications, consistent with approved criteria for enabling regional variability in assessment protocols. Where regional modifications are approved, they will be documented in the assessment protocol and become the standard for assessment in that area.

8.4 Regionally specific modifications to assessment protocols may include consideration of traditional knowledge.

8.5 CEF Standard Assessment Protocols may include guidance for incorporating new or improved information for assessments, including information collected and submitted to government by third parties.

8.6 CEF Standard Assessment Protocols must be approved by the NRS ADMs Committee.

8.7 Proposed CE management review triggers must be approved by the NRS ADMs Committee and include a rationale for selection and analysis of implications of implementing the proposed triggers.

9. Assessing Condition and Trend

9.1 An assessment of current condition (see Table 1) of state and pressure indicators relative to benchmarks (if applicable) shall be completed annually for all CEF values, in accordance with the approved CEF Standard Assessment Protocol for each value.

9.2 An assessment of potential future condition (see Table 1) of state and pressure indicators relative to benchmarks (if applicable) shall be periodically completed for all CEF values and may include one or more of the following:

a. an assessment of the effects of *certain* future activities

b. an assessment of the effects of *reasonably foreseeable* future activities

c. an assessment of the effects of *hypothetical* long-term scenarios of activities and natural processes.

Table 1. Temporal scales for CEF assessment

Level	Time frame	Description
Current Condition & Trend	**Historic to present**	Evaluates current condition of CEF values, using selected indicators and defined objectives. Assessment of current condition incorporates the effects of historic and present activities. Historic condition and annual updates to current condition reports provide trend information (i.e., expected condition based on current management and resource development).
Assessing Potential Future Condition		
Certain Activities	**Near-term future:** 1-3 years	Evaluates the effects of all activities that are *certain* or *very likely* to proceed (e.g., authorizations/operational plans have been approved) on CEF values.
Reasonably Foreseeable Activities	**Near-term future:** 1-10 years	Evaluates the effects of all activities that are expected to proceed (e.g., the proponent has publicly disclosed its intention to seek the necessary EA or is in the process of seeking other types of authorizations).
Hypothetical Long-term scenarios	**Long-term** 10-200 years	Qualitative description or modelled scenarios of development and natural disturbance assessed over long periods of time. There is considerable uncertainty whether activities will ever proceed. The conjecture is based on currently available information. Can incorporate climate change scenarios. Intended to support strategic decision-making for an area (e.g., establish/revise land use objectives, allocation decisions).

9.3 Assessment of the future condition and trend of indicators may include consideration of climate change.

9.4 Supplemental information (e.g., overlapping multiple indicator maps or combining indicators) may be assessed and reported to support interpretation of the condition of the CEF value.

9.5 Where indicators are used to assess against specific objectives with approved CE management review triggers, conditions will be assessed and reported in relation to CE management review classes (standard, enhanced or intensive), indicating whether specific objectives are being or will be achieved and corresponding expectations for considering management responses (described further in *Part 3: Cumulative Effects Management*).

9.6 Assessment results shall be reviewed prior to reporting to:

a. validate assessed conditions regionally with best available information (e.g., Forest and Range Evaluation Program or other monitoring data, research, inventory, major project assessment data), expert opinion or local and traditional knowledge

b. define uncertainty and assumptions in assessment methods and sensitivity of results to those uncertainties and assumptions

c. interpret results, including key drivers likely causing the predicted or observed condition of values.

9.7 When developing CEAM Reports, assessment results shall be reviewed to:

a. identify common pressures or causes of effect across values

b. identify tools that enable management responses and potential barriers to implementation

c. identify possible management responses and any additional actions necessary (e.g., orders made under regulation)

d. focus management responses on addressing common pressures and prioritize management responses with higher benefits across multiple values.

10. Reporting Cumulative Effects

Two types of reports are produced under the CEF: the Current Condition Report and the Cumulative Effects Assessment and Management (CEAM) Repor ne context, content and purpose for these reports are outlined below (see Table 2).

Table 2. Defining features of Current Condition and CEAM Reports

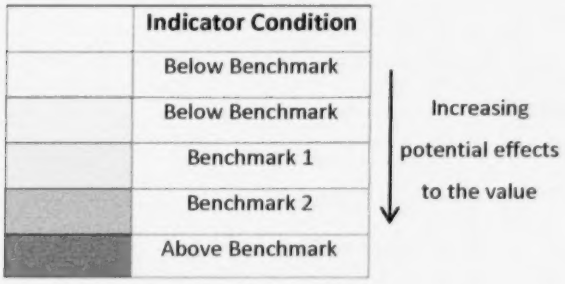
	Current Condition Report	CEAM Report
Context	Province-wide	Regional/sub-regional assessment area
	Value specific	Includes all CEF values for the assessment area
	Updated annually	Updated periodically
	Produced by NRS CE Technical Team	Produced regionally by NRS Technical CE Team
Content	Reports results of current condition assessments for individual CEF values. Reports trend in condition based on historic assessments.	Collates and summarizes current condition reports for all CEF values within the assessment area.
		Summarizes the potential future condition of CEF values.
		Summarizes results by management review classes, where applicable.
	Provides a description and interpretation of assessment results and validation summary.	Collates and summarizes interpretation of assessment results and validation summaries from current condition reports.
		Includes recommended or approved management responses.
Purpose	Used to inform where a CEAM report is warranted. In the absence of a CEAM Report, may be used to support operational, tactical and strategic decisions, along with additional analysis or interpretation from subject matter experts.	Used to inform operations, tactical and strategic decisions.
	Informs third-party assessments (e.g., Environmental Assessment or permit applications).	Used to inform third-party assessments (e.g., Environmental Assessment or permit applications).

10.1 Current Condition Reports (for each CEF value) shall include:

a. a brief description of the CEF value

b. maps of the current condition of each indicator with reference to benchmarks (where applicable) by assessment unit and reporting unit for the value. The results of the indicator assessment shall be reported on a gradient scale that reflects increasing potential effects to the value and indicates the benchmark value, where applicable

Figure 3: Example map legend for reporting current condition results



c. a description of the limitations and sensitivity to uncertainties and assumptions in the data and assessment results

d. a description of or reference to other relevant available monitoring information for the value assessed

e. an interpretation of the assessment results for current condition and trend

f. a summary of validation steps and results.

10.2 A Cumulative Effects Assessment and Management Report may be completed when there is a concern about objectives being met, the rate of change in the condition of a value or values or the level of development proposed in an area, or other criteria to be defined.

10.3 Cumulative Effects Assessment and Management Reports shall include:

a. a brief description of the reporting unit, and CEF values assessed

b. a summary and interpretation, including maps, of the current condition of all CEF values for the selected reporting unit, illustrating:

i. the current condition and trend for indicators assessed, including reference to benchmarks (where applicable)

ii. the management review class for each indicator with approved management review triggers (where applicable)

c. a summary and interpretation of the potential future condition for all CEF values

d. a description of the limitations and uncertainties in the data and assessment results

e. a description or reference to other relevant available monitoring information for the values assessed

The following shall also be included in Cumulative Effects Assessment and Management Reports upon completion of the cumulative effects review process (see *Part 3: Cumulative Effects Management*):

f. approved or recommended management responses to address cumulative effects

g. a summary and rationale for approval of the CEAM Report by the NRS ADMs Committee.

10.4 Data and information used to complete CEF assessments shall be freely and openly available in accordance with provincial legislation and policy.

Part 3: Cumulative Effects Management

11. Cumulative Effects Management Overview

Part 3 of this policy provides direction and guidance for managing cumulative effects based on the results of the CEF Assessments outlined in Part 2. As outlined in Part 1, Section 3 (Roles and Responsibilities) and Part 2, Section 9 (Assessing Condition and Trend), the NRS CE Technical Team will review CEF assessment results and recommend potential CE management responses. Review of CEF assessment results will include the current condition of state and pressure indicators for a value (in current condition reports), may include the potential future condition of current state and pressure indicators for a value (in CEAM Reports) and, where applicable, the management review class assigned to an indicator for a value (in CEAM Reports, see 11.2 below).

11.1 Cumulative Effects Indicator Assessment

11.1.1 The cumulative effects assessments of the current or future condition of state and pressure indicators (see *Part 2: Cumulative Effects Assessment*, Section 9) provide information to support decision-making, in particular the identification of management responses, but do not include or infer a specific target condition for a CEF value.

11.2 Cumulative Effects Management Review Classes

11.2.1 Where CE Management Review Triggers have been approved for a CEF value (see *Part 2: Cumulative Effects Assessment*, Section 8), CEAM reports shall report the condition of values relative to three defined management review classes described below and illustrated in Figure 4.

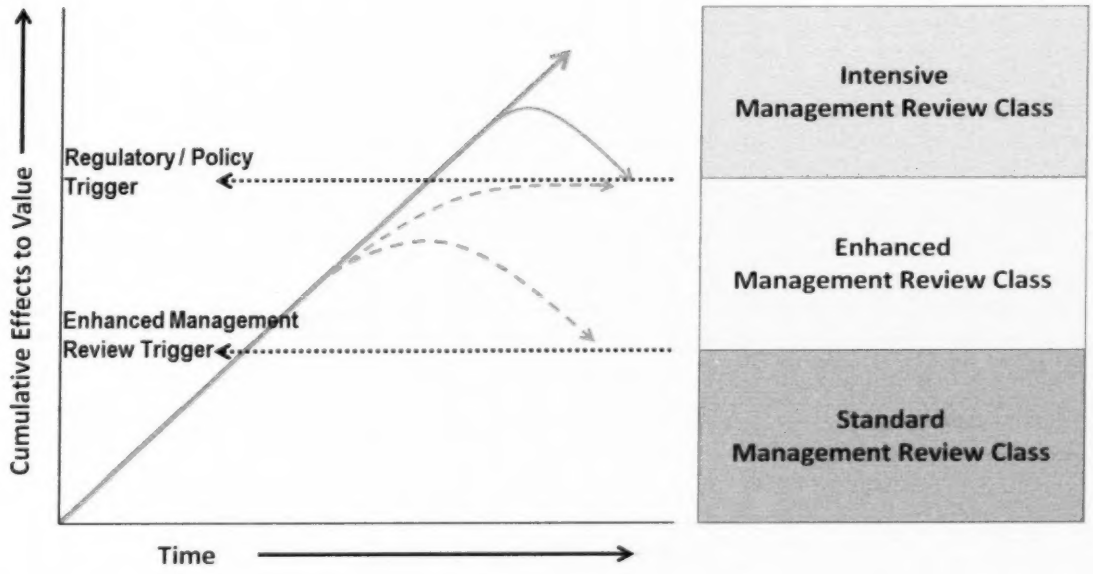
1. **Standard Management Review Class**
   The condition of an indicator for a CEF value is assessed as being below (i.e., better than) both the regulatory/policy trigger and enhanced management review trigger, indicating that the specific objective is being achieved.

2. **Enhanced Management Review Class**
   The condition of an indicator for a CEF value is assessed as being below the regulatory/policy trigger but above the enhanced management review trigger. The specific objective is being achieved, but conditions are approaching a level where further development could put their achievement at risk. ***The management goal is to enhance consistent and coordinated responses to ensure the specific objective is not unintentionally exceeded.***

3. **Intensive Management Review Class**
   The condition of an indicator for a CEF value is assessed as being above the regulatory/policy trigger, and therefore the specific objective is not currently being achieved. ***The management goal is to ensure consistent and coordinated responses to meet the specific objective.***

Figure 4: Conceptual relationship between condition of CEF value and CEF management review classes.

The two dashed lines are indented to reflect that there may be different management responses applied to influence the trend in condition within the enhanced management review class, depending on the specific objective being assessed. Some objectives may reflect a limit to acceptable conditions with the intention to proactively manage to maintain the value in good condition, while other objectives may reflect an intention to manage conditions close to the regulatory limit.

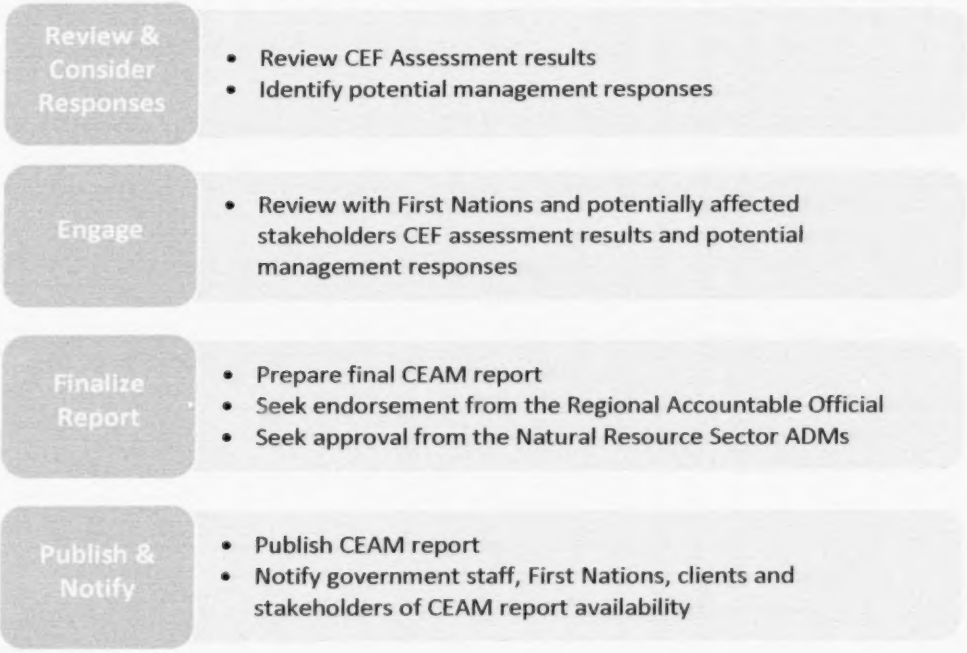


12. Regional Cumulative Effects Management Process

12.1 Generalized Business Process for Cumulative Effects Management

12.1.1 Generalized steps and responsibilities for the regional cumulative effects management process are outlined in Figure 5 below.

Figure 5: Generalized steps for the regional cumulative effects management process


Review & Consider Responses
• Review CEF Assessment results
• Identify potential management responses
Engage
• Review with First Nations and potentially affected stakeholders CEF assessment results and potential management responses
Finalize Report
• Prepare final CEAM report
• Seek endorsement from the Regional Accountable Official
• Seek approval from the Natural Resource Sector ADMs
Publish & Notify
• Publish CEAM report
• Notify government staff, First Nations, clients and stakeholders of CEAM report availability

12.2 Identifying CE Management Responses

12.2.1 The NRS CE Technical team shall review CEF assessment results (i.e., current condition and trend, potential future condition and management review class assessments) and identify potential management responses by:

a. considering permanence of effects, extent of effects and consequence of effects on achieving objectives

b. applying the principles of the mitigation hierarchy (avoid, minimize, restore, offset) across the CEF assessment area

c. identifying appropriate management tools and potential barriers to implement management responses

d. considering management responses that may improve resilience to the potential effects of climate change

e. considering common pressures across multiple values and prioritizing management responses with higher benefits across multiple CEF values.

12.2.2 Where objectives are not being achieved (intensive management review class) or at potential risk of not being achieved in the near term (enhanced management review class), the need for coordinated management responses across natural resource sector activities should be specifically considered.

12.2.3 When management review classes are assigned, management responses should be identified in relation to the goals for each management class (see 11.2.1).

12.2.4 CE management responses may be operational, tactical or strategic[3] in nature, as defined below:

Operational responses: consideration of site- or project-level guidance or implementation of measures to mitigate the effects of projects or activities, typically undertaken by proponents.

Tactical responses: processes to improve consistency and/or coordination in applying current policy direction, or to seek further information, that may be undertaken by government, proponents, stakeholders and/or First Nations.

Strategic responses: measures to define or establish strategic direction for the management of land and/or resource values, typically led or coordinated by government.

12.3 Engagement

12.3.1 First Nations and potentially affected stakeholders within the cumulative effects assessment area shall be notified when a CEAM report is being initiated and provided opportunity to review assessment results and provide feedback on the assessment and potential management responses.

12.4 Approval of CEAM Report

12.4.1 The Regional Cumulative Effects Management Committee shall indicate to the regional accountable official their level of support for the approval of CEAM reports.

12.4.2 CEAM reports shall include a recommendation from the responsible Regional Accountable Official for approval.

12.4.3 CEAM reports shall be approved by the NRS ADMs.

12.5 Notice of CEAM Report

12.5.1 Approved CEAM reports shall be made available to government staff, First Nations and stakeholders.

12.5.2 Notice of the availability of an approved CEAM report shall be provided to government staff, First Nations and stakeholders.

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[3] Operational, tactical and strategic *management responses* categorize the types of actions that may be recommended after considering CEF assessments, whereas operational, tactical and strategic *decisions* (Section 2.2) categorize the types of decision-making that may need to consider cumulative effects.

13. Considering Cumulative Effects in Natural Resource Decision-Making

13.1 Operational Decision-Making and Associated Activities

13.1.1 Natural Resource Authorizations

13.1.1.1 Available *CEF assessments* should be considered by government staff and decision-makers when reviewing applications for the use of land and natural resources that could potentially affect the condition of *CEF values*[4].

13.1.1.2 The following should be considered by government staff and decision-makers when reviewing and considering applications for the use of lands and natural resources in relation to 13.1.1.1:

a. the assessed condition of CEF values, as documented in current condition reports or CEAM reports

b. the assessed management review class for CEF values[5], if applicable, as defined in CEAM reports

c. the potential future condition of CEF values, or near-term trends, as documented in approved CEAM reports

d. the potential impacts of the proposed activity on the condition of the CEF values

e. management responses identified in the approved *CEAM report* that may be relevant for mitigating potential impacts of the proposed activity

f. additional measures for mitigating the potential impacts of the proposed activity that are consistent with the goals of the assessed CE management class (see Section 11.2.1)

13.1.1.3 Assessments of cumulative effects completed as part of the review of an application for an Environmental Assessment Certificate for reviewable projects may inform or address requirements for considering cumulative effects in subsequent authorizations.

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[4] If no CEF assessment is available, refer to Section 14 for considering cumulative effects in the absence of a CEA.

[5] Applies where CE Management review triggers have been approved in relation to a specific objectives for a CEF value. See Part 2 for more information.

13.1.2 Environmental Assessment for Major Projects

This section provides direction for considering CEF assessments in the assessment of effects of proposed major projects, defined as:

a. projects that are "reviewable" under the B.C. *Environmental Assessment Act,*

b. other major projects (e.g., clean energy developments, major resorts and mines).

This direction supplements but does not replace existing policy or guidance for project-level assessment of effects. See, for example, *EAO Guideline for the Selection of Valued Components and Assessment of Potential Effects (2013)*.

13.1.2.1 **Project Scoping (Pre-application Phase):** The following should be considered by government staff and decision-makers for inclusion in the Application Information Requirements[6] for a major project.

a. CEF values and associated components should be considered as valued components or key indicators, as applicable, for the assessment of project effects, where the proposed activity has the potential to affect CEF values.

b. Spatial and temporal boundaries for valued component assessment should align with those used in CEF assessments, wherever feasible and appropriate for project specific assessment.

c. Indicators, benchmarks and management review triggers used in CEF assessments should be applied in assessments of project effects for the same valued components, where feasible.

d. CEAM reports and current condition reports should be considered in characterizing current and potential future conditions for valued components, as well as informing proposed mitigation.

13.1.2.2 **Project Assessment (Application Review Phase):** The following should be considered by government staff when reviewing project applications and concluding on residual effects.

a. The current or potential future condition (where available) of CEF values and how the proposed activity may affect those conditions.

b. Where applicable, the current management review class for CEF values and the potential for the proposed activity to cause a change in management review class for a value.

c. Where current conditions for a value are within an enhanced management review class, mitigation strategies should be consistent with the goals specified for enhanced management (Section 11.2.1)

[6] Or comparable document for major projects that are not EA reviewable.

and should consider relevant management responses defined in CEAM reports.

d. Where the current condition for a value is within an intensive management review class, mitigation strategies should be consistent with the goal for intensive management (Section 11.2.1) and should consider relevant management responses defined in CEAM reports.

13.1.2.3 **Project Conditions:** When drafting recommended conditions, government staff may consider including a recommended condition for the certificate or permit holders to submit baseline or environmental monitoring data that were collected for any CEF values in the preparation of the environmental assessment or will be collected as required for monitoring the condition and trend of the valued component and the effectiveness of approved mitigation strategies.

13.1.3 First Nations Consultation and Impact Assessment

13.1.3.1 The following should be considered by government staff and decision-makers, where relevant, for the purpose of consulting First Nations in relation to proposed activities and undertaking a preliminary assessment of potential impacts to established or asserted Aboriginal rights or treaty rights:

a. CEF values that have been assessed within the traditional territories of First Nations, that are relevant to the exercise of established or asserted Aboriginal or treaty rights and overlap the project area of interest

b. the current condition of indicators assessed for each relevant value in current condition or CEAM reports

c. the potential future condition of CEF values, or near term trends, as documented in CEAM reports

d. where applicable, the current management review class for each relevant indicator, as documented in CEAM reports

e. management responses identified in CEAM reports.

13.2 Tactical Decisions

13.2.1 CEF assessments should be considered in tactical government decisions, such as:

a. establishing priorities for inventory, research and monitoring

b. developing other integrated monitoring analysis and reports (e.g., Forest and Range Evaluation Program, Multi-Resource Value Assessments)

c. developing resource management plans or strategies to achieve desired outcomes from established direction

d. coordinating development or use-planning across sectors to achieve desired outcomes from established direction.

13.3 Strategic Decisions

13.3.1 CEF assessments should be considered when undertaking processes to support any of the following types of strategic decisions:

a. the establishment of new or revised resource objectives, land use plans and other types of management plans for values

b. the determination of Allowable Annual Cuts for timber harvesting

c. the determination of harvestable surplus for the allocation of wildlife.

14. Considering Cumulative Effects in the Absence of a CEF Assessment

14.1 Where a CEF assessment has not been completed for a selected area or a selected CEF value, the following should be considered for the purpose of identifying the potential for cumulative effects and possible management responses:

a. issues or concerns regarding cumulative effects raised by First Nations or stakeholders

b. the CEF value(s) that could potentially be affected by the proposed activity

c. the importance or significance of the value – locally, regionally, provincially and to First Nations

d. government's objectives for the value and the spatial scale of those objectives

e. existing information on current condition of the value and trend in the condition of the value (e.g., monitoring data, completed Environmental Assessments for reviewable projects, research and inventory)

f. whether government objectives are at risk of not being achieved

g. existing and other proposed activity in the general area and existing natural disturbance events, and near term risk to the value based on those activities or events

h. conservation or mitigation measures currently in place to manage for the value within the general area (e.g., protected areas)

i. the potential impact of the proposed activity on the value, and appropriate mitigation strategies, if warranted

j. the residual impact of the proposed activity on the value, after applying mitigation measures.

15. Documenting and Reporting Cumulative Effects Considerations

15.1 Decision-support packages prepared for statutory decision-makers should include a summary of considerations related to cumulative effects, where relevant to the decision at hand.

15.2 Decision rationales, when completed, should include a summary of how cumulative effects were considered, where relevant to the decision at hand, and may include:

a. current management expectations and practices

b. commitments made by government to manage the value

c. conditions of authorization intended to address cumulative effects

d. assumptions made in considerations

e. gaps in information, or uncertainty, and how those are addressed.